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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/936,294	03/11/2002	Yuji Kakehi	2576-118	2437

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EXAMINER

GHULAMALI, QUTBUDDIN

ART UNIT PAPER NUMBER

2637

DATE MAILED: 06/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/936,294	KAKEHI, YUJI	
	Examiner	Art Unit	
	Qutub Ghulamali	2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 3/11/2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/31/02, 9/12/01</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shou et al (USP 5,910,948) in view of Lomp et al (USP 5,991,332).

Regarding claims 1, 2, 4, 6, 9, 10, 11, 13, 15 and 17, Shou discloses a mobile communication terminal comprising:

a receiver (12) receiving a radio wave (11) from base stations (abstract; fig. 1; col. 3, lines 15-20, 45-48);

a detector detecting spread codes from signals received by said receiver (col. 3, lines 45-63; col. 5, lines 60-67);

a demodulator (30) demodulating the received signals with the spread codes detected by said detector (22, correlators 1-n) (col. 6, lines 18-37). Shou however is silent regarding:

a decoder decoding data demodulated by said demodulator, and a control unit controlling cell search process, and stopping signal processing of the cell search in response to detection of invalid cell.

Lomp in a similar field of endeavor discloses,

a decoder (fig. 15, elements 1713-1716) decoding data demodulated by said demodulator (col. 31, lines 1-15); and

a control unit (fig. 11, element 1303) controlling cell search process, and stopping signal processing of the cell search in response to detection of invalid cell (match and dismiss) (col. 30, lines 57-67; col. 31, lines 1-4). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a decoder and a control unit as taught by Lomp in the circuit of Shou because it can allow decoding of encoded data in each of the received message channel and facilitate controlling the search process so that signal power level of the despread associated code signal is optimized.

Regarding claim 8, Shou in combination with Lomp discloses all claim limitations to claim 1, 10 and 17. Shou, still, further discloses dividing a slot into a plurality of search ranges, deleting multipath in said search range, successively allowing demodulator (30) to demodulate the received signals and allowing decoder to decode the demodulated data (abstract; col. 4, lines 20-27).

Regarding claims 3 and 12, Shou discloses a cellular communication system includes: a slot timing detector (short period (time)) detecting slot timing from the signals received by said receiver (col. 3, lines 41-48); a code group detector detecting a code group (long code or group) based on the slot timing detected by said slot timing detector from the signals received by said receiver (col. 3, lines 41-56); and

a code detector detecting a code based on the slot timing detected by said slot timing detector and the code group detected by said code group detector from the signals received by said receiver (col. 3, lines 41-63; col. 4, lines 20-28).

Regarding claims 5, 7, 14 and 16, Shou discloses code group detector includes:

a plurality of code generators (spread code sequence generated by the spread code generator set in each correlator, each code generators generating a code corresponding to a different code group (col. 6, lines 6-12);

a plurality of correlators (28-1 to 28-n) each of said correlators calculating correlation between the signal received by receiver and the code generated by the corresponding code generator (col. 3, lines 46-56, 64-67; col. 4, lines 1-5; col. 6, lines 18-39). Shou however is silent regarding:

a dummy code generator generating a dummy code different from the code group and a determining unit the invalidity of the detected slot timing. Lomp in a similar field of endeavor discloses:

a dummy (pilot) code generator generating a dummy (pilot code) different from the code groups generated by plurality of code generators (col. 3, lines 45-63; col. 5, lines 60-67; col. 32, lines 51-63);

a determining unit (control unit controlling cell search process) determining the invalidity of the detected slot timing (stopping signal processing of the cell search in response to detection of invalid cell) based on the calculation result of plurality of correlators (col. 30, lines 60-67; col. 31, lines 1-4). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a dummy (pilot) code generator generating a dummy (pilot code) and

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a determining unit determining the invalidity of the detected slot timing (short period (timing)) as taught by Lomp in the circuit of Shou because it can allow synchronization of the received signals and optimize the search control process.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patents:

Arthur et al (USP 5,067,136) discloses chip code generation in a spread spectrum transmitter and receiver for fast frequency shift keying.

Hulbert (USP 5,793,796) discloses an apparatus for use in equipment providing a digital radio link between a fixed and a mobile radio unit.

Publications:

Kavehrad, Mohsen et al., "Direct Sequence Spread Spectrum with DPSK Modulation and Diversity for Indoor Wireless Communications", IEEE Trans. on Comm., Feb. 1987, vol. COM-35, No. 2, pp. 224-226.

Hagon, P. J., "A Programmable Surface Acoustic Wave Matched Filter for Phase-Coded Spread Spectrum Waveforms", IEEE Transaction on Microwave Theory and Techniques, pages 303-306, April 1973.

Saleh, Adel A.M. et al., "An Experimental TDMA Indoor Radio Communications System Using Slow Frequency Hopping and Coding", IEEE Trans. on Comm., Jan. 1991, 39(1):152-161.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qutub Ghulamali whose telephone number is (571) 272-3014.

The examiner can normally be reached on Monday-Friday from 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

QG.
June 17, 2005.

A handwritten signature in black ink, appearing to read 'Jay K. Patel', with a long horizontal line extending from the end of the signature.

JAY K. PATEL
SUPERVISORY PATENT EXAMINER